

Morbidity and Mortality



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REPORT

For
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FEB

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EPIDEMIOLOGIC NOTES AND REPORTS

MEASLES OUTBREAK - Aberdeen, South Dakota

Between Oct. 17, 1970, and Jan. 14, 1971, an outbreak of measles involving 286 children occurred in Aberdeen (Brown County), South Dakota, a town of 26,000 in the northeast corner of the state. The illness was characterized by a 2-5-day prodrome of fever, cough, and conjunctivitis, followed by a 7-14-day period of rash, malaise, anorexia, headache, coryza, and photophobia.

A few isolated cases occurred in mid-October, with the first peak in mid-November (Figure 1). There were three major peaks, occurring 10-11 days apart. The last major peak occurred just before schools closed for the Christmas holidays. In 29 families, measles in one school-aged child was followed 7-14 days later (average 10) by one or more cases, usually in preschool siblings. The patients ranged in age from 10 months to 14 years (6.7 years mean); 71 percent were 5-9 years of age.

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There were fourfold rises in hemagglutination inhibition (HI) and complement fixation (CF) titers for measles in five of six paired sera, with the sixth showing high titers in acute and convalescent sera (HI 1:320, CF 1:256).

An immunization survey of 200 families (501 children out of the 6,000 in the community aged 1-12 years) conducted by the South Dakota Department of Health on December 18 indicated a 16 percent measles susceptibility rate; 54 percent gave a history of vaccination with live virus vaccine at more than 1 year of age. As part of the initial investigation of the epidemic, the immunization histories for the first 113 patients were analyzed in detail (173 more cases were documented subsequently).

(Continued on page 26)

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	4th WEEK ENDED		MEDIAN 1966 - 1970	CUMULATIVE, FIRST 4 WEEKS		
	January 30, 1971	January 31, 1970		1971	1970	MEDIAN 1966 - 1970
Aseptic meningitis	83	19	29	265	125	109
Brucellosis	2	2	2	3	6	7
Diphtheria	1	10	4	17	19	8
Encephalitis, primary:						
Arthropod-borne & unspecified	27	14	20	86	68	79
Encephalitis, post-infectious	8	10	10	26	25	32
Hepatitis, serum	171	116	81	722	498	260
Hepatitis, infectious	1,233	1,113	888	4,998	4,322	3,068
Malaria	128	63	45	298	206	153
Measles (rubeola)	1,533	1,255	1,255	4,701	3,591	3,591
Meningococcal infections, total	61	80	80	227	246	289
Civilian	58	77	77	213	234	264
Military	3	3	4	14	12	14
Mumps	3,507	2,585	---	11,574	9,349	---
Poliomyelitis, total	---	---	---	1	---	---
Paralytic	---	---	---	---	---	---
Rubella (German measles)	782	1,188	641	2,130	3,473	2,047
Tetanus	2	1	3	3	3	6
Tularemia	2	2	3	11	5	7
Typhoid fever	10	6	6	21	21	19
Typhus, tick-borne (Rky. Mt. spotted fever)	---	---	---	1	---	2
Rabies in animals	77	57	81	282	194	283

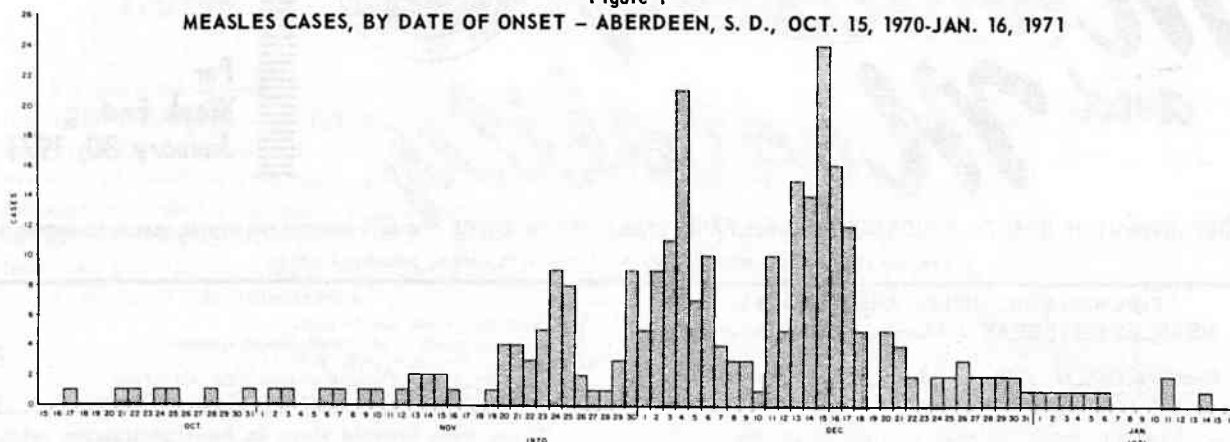
TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	---	Psittacosis:	4
Botulism:	---	Rabies in Man:	---
Leprosy: Calif.-1, Hawaii-3, Tex.-1	12	Rubella congenital syndrome:	3
Leptospirosis: Calif.-1, La.-1	3	Trichinosis: * Alaska-1, Ill-1, Tenn.1	6
Plague:	---	Typhus, murine:	---

*Delayed reports (1970): Trichinosis: S.C. delete 1

MEASLES - (Continued from front page)

Figure 1
MEASLES CASES, BY DATE OF ONSET - ABERDEEN, S. D., OCT. 15, 1970-JAN. 16, 1971



Although 26 of these 113 patients had received measles vaccine, 13 had been less than 1 year of age when vaccinated, and five had received killed virus vaccine (Table 1). The efficacy of the vaccine, excluding these 18 patients, was 97 percent.

There were seven cases of pneumonia in measles patients, four of whom had had killed virus vaccine. The rash in these children was atypical, being primarily vesicular, and intensely pruritic.

Immunization campaigns were conducted in Aberdeen and the rest of Brown County beginning Jan. 11, 1971. (Reported by G. H. Steele, M.D., Health Officer, and Rosemary Jira, R.N., Public Health Nurse, Brown County Health Department; Robert H. Hayes, M.D., State Health Officer, and John Jones, Immunization Representative, South Dakota State Department of Health; and an EIS Officer).

Editorial Note:

This large-scale measles outbreak in a community with an estimated 16 percent susceptibility level is consistent with the emerging epidemiologic pattern of measles in the United States (1,2), a pattern which does not fit with earlier herd immunity concepts (3,4). Vaccine failure in this outbreak was associated primarily with the administration of live virus vaccine and gamma globulin to infants (less than 1 year of age) and of killed virus vaccine—two factors acknowledged to be associated with higher vaccine failure rates (5). The corrected failure rate of 3 percent is consistent with the seroconversion failure rate accepted with live, attenuated measles virus vaccines (6).

Table 1
Previous History of Measles Vaccination and Clinical Measles of 113 Interviewed Measles Patients
Aberdeen, S. D., Oct. 17, 1970-Jan. 14, 1971

History	Number of Patients
Vaccinated	26
Live virus vaccine	
at < 1 year of age	13
at > 1 year of age	8
Killed virus vaccine	5
Clinical Case of Measles	8
No history of measles or vaccination	79
Total	113

The unusual clinical symptoms in the patients vaccinated with killed virus vaccine are consistent with previous descriptions of atypical measles with vesicular rash and pulmonary consolidation. Physicians should be aware of this possibility in measles epidemics.

References:

1. Wyll SA, Witte JJ: Measles in previously vaccinated children, an epidemiologic study. JAMA, in press
2. Lerman ST, Gold E: Measles in children previously vaccinated against measles. In preparation
3. Sencer DJ, Dull HB, Langmuir AD: Epidemiologic basis for eradication of measles in 1967. Public Health Rep 82:253, 1967
4. Hedrich AW: The corrected average attack rate from measles among city children. Amer J Hyg 11:576, 1930
5. Krugman S: Measles and rubella immunization. J Pediat 78:1, 1971
6. Gockiert JG, Beamish WE: Altered reactivity to measles virus in previously vaccinated children. Canad Med Ass J 103:724, 1970

INFLUENZA - United States, 1970-71

The third telephone survey of state health departments for the 1970-71 season was conducted by the Respiratory Diseases Surveillance Unit on Feb. 1, 1971. Elevated levels of febrile upper respiratory illness with associated increased school absenteeism were reported from scattered areas in the New England and Middle Atlantic States, and only sporadically throughout the rest of the country. Virus has been isolated in a relatively small number of cases.

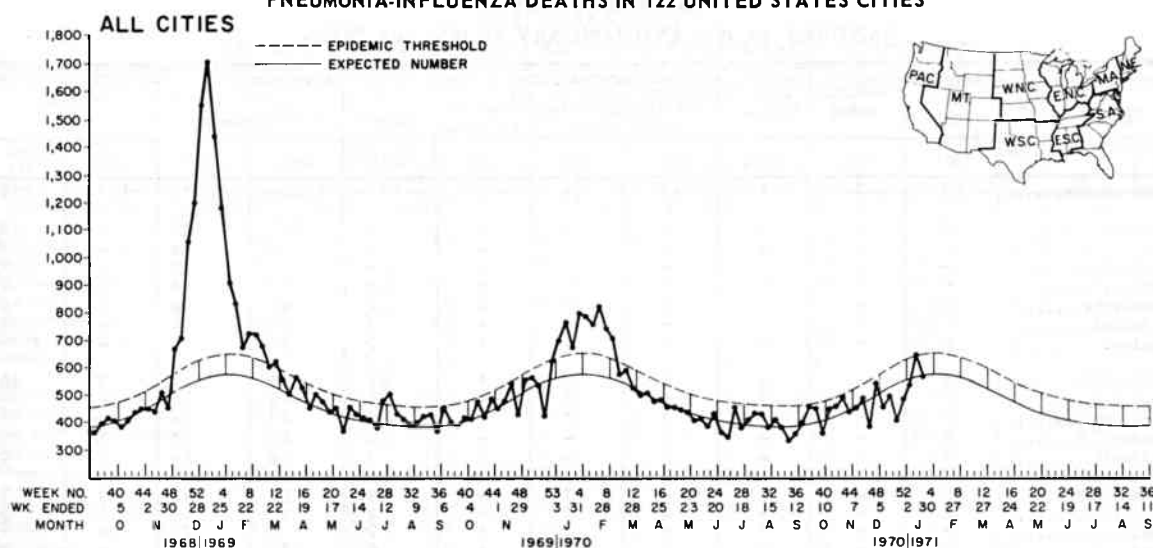
New England

All six states have reported at least several counties with outbreaks of respiratory illness. Unseasonably cold weather may have played a part in some of the excess school absenteeism.

In Maine, small outbreaks of influenza-like illness have been reported from Old Town and Millinocket.

In New Hampshire, elevated school absenteeism in the

Figure 2
PNEUMONIA-INFLUENZA DEATHS IN 122 UNITED STATES CITIES



25 percent range has been reported in the communities of Windham, Somersworth, Wilton, and Londonderry. Schools in Newfound and Hillsboro were closed for short periods.

Vermont has reported higher levels of influenza-like illness in the region from Wells River to Springfield associated with elevated school absenteeism. A high school and an elementary school in Bradford were closed.

In Connecticut, scattered outbreaks of respiratory illness associated with absenteeism in the 20-30 percent range were reported from Jewett City, Washington, New Haven, Norwich, Moosup, Meriden, and a number of other communities. Junior and senior high schools were particularly affected. At a boarding school in South Kent the attack rate was approximately 50 percent for an illness characterized by fever (99-104°F.), dry hacking cough, sore throat, and malaise. Thirty-two students were admitted to the school infirmary. Isolation of influenza B virus from two of 10 samples was reported.

Massachusetts has experienced regional outbreaks of influenza-like illness. Reports of increased respiratory illness rates began to appear during the last week of December, and school absenteeism began to rise around January 14 (MMWR, Vol. 20, No. 2) in the eastern third of the state, particularly the greater Boston area. The illness then spread westward, first as far as Worcester and now as far as Pittsfield and Springfield. Junior high and senior high students were most frequently affected, although rates in elementary students were also significantly elevated. No elevation in industrial absenteeism was noted. More than 50 communities were affected. The peak was apparently reached during the week of January 30, with a significant drop-off in the level of activity in the Boston area.

Elevated school absenteeism associated with localized outbreaks of influenza-like illness (cough, fever, and myalgia) were observed in Providence, Cranston, and Hope Valley, Rhode Island.

Middle Atlantic

Outbreaks of respiratory illness were much more scat-

tered than in New England, but activity has appeared only during the past week in most of these states.

Reports of elevated respiratory illness rates associated with increased school absenteeism were noted in Dutchess, Clinton, and Columbia counties in New York State. In New York City, only the expected seasonal incidence of respiratory illness is being reported. A single isolate of an A2 virus was documented on January 19.

Elsewhere in the United States

In Washington, D.C., six isolates of influenza B (4 presumptive, 2 confirmed) have been reported recently from sporadic cases of upper respiratory illness in children aged 6 months to 3-1/2 years. No elevation in school absenteeism is currently being noted.

A reported outbreak in Haslett, Michigan, appears to have ended, with no significant spread to other areas.

Investigation of the increase in number of cases of respiratory illness in Yuma County, Arizona, revealed that for some 25 persons who described symptoms of sore throat, fever, and malaise, three throat cultures were positive for echovirus type 6, indicating an etiology other than influenza for many if not all of these cases.

In Honolulu, a localized cluster of cases of flu-like illness at a single school, primarily among first and second graders, was investigated; influenza B was isolated from both of the two students cultured.

Pneumonia-influenza mortality data from 122 U.S. cities revealed no increase above expected levels thus far this season (Figure 2).

(Reported by the Respiratory Diseases Surveillance Unit, Viral Diseases Branch, Epidemiology Program, CDC.)

Addendum: New Jersey had only scattered outbreaks of respiratory illness; however, on Feb. 3, the health department reported explosive outbreaks throughout the state, with elementary- and junior-high-school absenteeism of 20-50 percent. No virus has been isolated yet, but diagnostic HI titer rises to influenza B have been noted.

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED
JANUARY 30, 1971 AND JANUARY 31, 1970 (4th WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	DIPH- THERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post In- fectious	Serum	Infectious			
				1971	1970	1971		1971	1971	1970	1971
UNITED STATES.....	83	2	1	27	14	8	171	1,233	1,113	128	298
NEW ENGLAND.....	3	-	-	-	2	-	9	117	96	2	12
Maine.....	-	-	-	-	-	-	-	9	18	-	1
New Hampshire.....	-	-	-	-	-	-	-	5	5	-	1
Vermont.....	-	-	-	-	-	-	-	11	4	1	1
Massachusetts.....	3	-	-	-	-	-	-	41	36	1	8
Rhode Island.....	-	-	-	-	1	-	2	20	15	-	1
Connecticut.....	-	-	-	-	1	-	7	31	18	-	-
MIDDLE ATLANTIC.....	7	-	-	5	1	1	65	235	159	9	30
New York City.....	-	-	-	-	1	-	36	63	16	-	-
New York, Up-State...	1	-	-	1	-	1	4	29	42	3	7
New Jersey.....*	5	-	-	1	-	-	18	85	61	3	14
Pennsylvania.....	1	-	-	3	-	-	7	58	40	3	9
EAST NORTH CENTRAL.....	8	-	-	4	7	-	25	198	202	2	7
Ohio.....	2	-	-	2	1	-	4	57	48	1	2
Indiana.....	-	-	-	-	-	-	2	5	25	-	-
Illinois.....	-	-	-	1	4	-	6	37	52	-	3
Michigan.....	5	-	-	1	2	-	13	90	74	1	2
Wisconsin.....	1	-	-	-	-	-	-	9	3	-	-
WEST NORTH CENTRAL.....	-	1	-	-	1	-	1	45	34	9	28
Minnesota.....*	-	-	-	-	-	-	-	5	5	-	-
Iowa.....*	-	1	-	-	1	-	-	11	3	-	2
Missouri.....	-	-	-	-	-	-	-	4	20	4	8
North Dakota.....	-	-	-	-	-	-	-	5	-	-	-
South Dakota.....	-	-	-	-	-	-	-	5	-	-	-
Nebraska.....	-	-	-	-	-	-	-	9	-	-	3
Kansas.....*	-	-	-	-	-	-	1	6	6	5	15
SOUTH ATLANTIC.....	7	-	-	4	2	6	20	100	92	19	47
Delaware.....	-	-	-	1	-	-	1	3	-	-	-
Maryland.....	1	-	-	-	-	-	3	16	15	8	10
Dist. of Columbia....	-	-	-	-	-	-	2	2	3	-	-
Virginia.....	1	-	-	-	-	-	2	12	5	1	7
West Virginia.....	-	-	-	-	-	-	-	5	9	1	1
North Carolina.....	-	-	-	2	-	-	9	26	6	4	17
South Carolina.....	-	-	-	-	-	-	-	4	21	1	2
Georgia.....	-	-	-	-	-	-	-	7	19	-	2
Florida.....	5	-	-	1	2	6	3	25	14	4	8
EAST SOUTH CENTRAL.....	8	-	-	4	1	-	4	79	90	22	45
Kentucky.....	3	-	-	3	1	-	3	32	55	21	42
Tennessee.....	4	-	-	-	-	-	-	33	23	-	-
Alabama.....	1	-	-	1	-	-	1	10	6	1	3
Mississippi.....	-	-	-	-	-	-	-	4	6	-	-
WEST SOUTH CENTRAL.....	8	1	1	-	-	-	6	85	108	37	68
Arkansas.....*	-	-	-	-	-	-	-	-	-	-	2
Louisiana.....	1	-	-	-	-	-	4	9	13	2	5
Oklahoma.....*	2	-	-	-	-	-	-	21	12	6	14
Texas.....	5	1	1	-	-	-	2	55	83	29	47
MOUNTAIN.....	1	-	-	1	-	-	3	56	55	7	17
Montana.....	-	-	-	1	-	-	-	4	2	-	-
Idaho.....	-	-	-	-	-	-	-	6	1	-	-
Wyoming.....	-	-	-	-	-	-	-	-	2	-	-
Colorado.....	-	-	-	-	-	-	-	10	14	6	15
New Mexico.....	-	-	-	-	-	-	-	4	13	-	-
Arizona.....	1	-	-	-	-	-	1	21	7	1	2
Utah.....	-	-	-	-	-	-	2	11	14	-	-
Nevada.....	-	-	-	-	-	-	-	-	2	-	-
PACIFIC.....	41	-	-	9	-	1	38	318	277	21	44
Washington.....	-	-	-	-	-	-	-	50	22	-	-
Oregon.....	2	-	-	-	-	-	3	30	24	-	-
California.....	38	-	-	8	-	1	35	227	219	20	39
Alaska.....	-	-	-	1	-	-	-	4	2	-	1
Hawaii.....	1	-	-	-	-	-	-	7	10	1	4
Puerto Rico.....*	-	-	-	-	-	-	-	4	7	-	-
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-

*Delayed reports: Aseptic meningitis (1970): Okla. 1
Encephalitis, primary (1970): Minn. 2
Hepatitis, serum (1970): N.J. delete 1, Kans. 1,
Okla. 1

Hepatitis, infectious: (1970):
N.J. 2, Kans. 16,
Ark. 1, Okla. 3,
P.R. 9, (1971) N.J. 1
Malaria (1970): Minn. 14, Iowa 1,
Kans. 3

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED
JANUARY 30, 1971 AND JANUARY 31, 1970 (4th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		POLIOMYELITIS		
	1971	Cumulative		1971	Cumulative		1971	Cum. 1971	Total 1971	Paralytic Cum. 1971	
		1971	1970		1971	1970				1971	1970
UNITED STATES.....	1,533	4,701	3,591	61	227	246	3,507	11,574	-	-	-
NEW ENGLAND.....	56	177	43	4	10	11	324	955	-	-	-
Maine.....	32	92	-	4	5	-	25	135	-	-	-
New Hampshire.....	2	3	1	-	1	1	44	81	-	-	-
Vermont.....	1	1	-	-	-	-	-	-	-	-	-
Massachusetts.....	16	73	27	-	1	4	101	264	-	-	-
Rhode Island.....	3	5	2	-	1	1	113	267	-	-	-
Connecticut.....	2	3	13	-	2	5	41	208	-	-	-
MIDDLE ATLANTIC.....	131	481	552	3	21	44	221	907	-	-	-
New York City.....	90	283	69	-	2	11	33	146	-	-	-
New York, Up-State....	7	63	25	-	4	10	NN	NN	-	-	-
New Jersey.....	9	21	307	-	2	8	62	314	-	-	-
Pennsylvania.....	25	114	151	3	13	15	126	447	-	-	-
EAST NORTH CENTRAL.....	353	867	978	13	23	26	1,350	4,258	-	-	-
Ohio.....	219	476	231	5	11	11	430	773	-	-	-
Indiana.....	6	8	26	1	1	1	246	610	-	-	-
Illinois.....	73	141	626	4	5	3	93	279	-	-	-
Michigan.....	14	53	40	2	4	10	259	1,090	-	-	-
Wisconsin.....	41	189	55	1	2	1	322	1,506	-	-	-
WEST NORTH CENTRAL.....	158	228	529	8	23	4	209	630	-	-	-
Minnesota.....	11	14	1	1	4	2	18	100	-	-	-
Iowa.....	4	38	-	1	2	1	97	357	-	-	-
Missouri.....	132	143	4	-	4	1	42	63	-	-	-
North Dakota.....	6	7	13	-	1	-	21	54	-	-	-
South Dakota.....	1	18	-	-	3	-	25	42	-	-	-
Nebraska.....	2	4	510	1	2	-	1	7	-	-	-
Kansas.....	2	4	1	5	7	-	5	7	-	-	-
SOUTH ATLANTIC.....	206	716	526	9	22	57	232	871	-	-	-
Delaware.....	2	4	55	-	-	2	5	26	-	-	-
Maryland.....	5	8	87	1	2	4	31	117	-	-	-
Dist. of Columbia....	-	1	127	-	1	-	4	22	-	-	-
Virginia.....	94	418	99	1	1	6	22	100	-	-	-
West Virginia.....	7	29	22	-	1	1	49	217	-	-	-
North Carolina.....	60	147	28	1	3	10	NN	NN	-	-	-
South Carolina.....	17	73	8	1	1	3	13	62	-	-	-
Georgia.....	-	1	-	-	3	13	-	-	-	-	-
Florida.....	21	35	100	5	10	18	108	327	-	-	-
EAST SOUTH CENTRAL.....	221	768	65	5	17	24	273	1,021	-	-	-
Kentucky.....	53	368	50	1	5	10	80	401	-	-	-
Tennessee.....	23	78	4	2	6	10	165	493	-	-	-
Alabama.....	137	282	4	-	3	3	26	107	-	-	-
Mississippi.....	8	40	7	2	3	1	2	20	-	-	-
WEST SOUTH CENTRAL.....	328	1,092	647	3	19	35	242	727	-	-	-
Arkansas.....	1	4	-	-	-	2	-	3	-	-	-
Louisiana.....	50	92	6	1	7	7	3	4	-	-	-
Oklahoma.....	53	171	-	1	1	6	3	12	-	-	-
Texas.....	224	825	641	1	11	20	236	708	-	-	-
MOUNTAIN.....	34	184	145	-	12	4	159	459	-	-	-
Montana.....	9	35	8	-	-	-	33	56	-	-	-
Idaho.....	4	50	-	-	-	-	35	81	-	-	-
Wyoming.....	3	3	-	-	-	-	1	8	-	-	-
Colorado.....	7	23	4	-	3	1	25	84	-	-	-
New Mexico.....	-	43	23	-	-	-	14	44	-	-	-
Arizona.....	8	20	108	-	5	1	45	157	-	-	-
Utah.....	3	10	-	-	3	2	6	29	-	-	-
Nevada.....	-	-	2	-	1	-	-	-	-	-	-
PACIFIC.....	46	188	106	16	80	41	497	1,746	-	-	-
Washington.....	-	16	5	-	3	4	258	914	-	-	-
Oregon.....	-	21	-	1	6	3	50	177	-	-	-
California.....	42	140	93	15	69	34	172	551	-	-	-
Alaska.....	3	3	-	-	-	-	1	7	-	-	-
Hawaii.....	1	8	8	-	2	-	16	97	-	-	-
Puerto Rico.....	2	11	178	-	-	-	9	81	-	-	-
Virgin Islands.....	-	1	2	-	-	-	-	-	-	-	-

*Delayed reports: Measles: (1970) N.H. 1, Okla. 11, (1971) Me. delete 1, N.H. 1
Meningococcal infections (1970); Alaska 1
Mumps: (1970) N.H. 8, Minn. 1, Okla. 4, (1971) Me. 4

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

JANUARY 30, 1971 AND JANUARY 31, 1970 (4th WEEK) -CONTINUED

AREA	RUBELLA		TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971
UNITED STATES.....	782	2130	2	3	2	11	10	21	-	1	77	282
NEW ENGLAND.....	45	102	-	-	-	-	-	1	-	-	-	10
Maine.....	14	27	-	-	-	-	-	-	-	-	-	6
New Hampshire.....	-	-	-	-	-	-	-	-	-	-	-	-
Vermont.....	2	4	-	-	-	-	-	-	-	-	-	4
Massachusetts.....	18	40	-	-	-	-	-	1	-	-	-	-
Rhode Island.....	6	11	-	-	-	-	-	-	-	-	-	-
Connecticut.....	5	20	-	-	-	-	-	-	-	-	-	-
MIDDLE ATLANTIC.....	36	144	-	-	-	-	-	-	-	-	10	25
New York City.....	7	32	-	-	-	-	-	-	-	-	-	-
New York, Up-State..	6	23	-	-	-	-	-	-	-	-	9	24
New Jersey.....	9	22	-	-	-	-	-	-	-	-	-	-
Pennsylvania.....	14	67	-	-	-	-	-	-	-	-	1	1
EAST NORTH CENTRAL....	142	455	-	-	-	-	1	1	-	-	4	30
Ohio.....	32	55	-	-	-	-	1	1	-	-	-	2
Indiana.....	6	111	-	-	-	-	-	-	-	-	-	1
Illinois.....	18	37	-	-	-	-	-	-	-	-	2	11
Michigan.....	48	156	-	-	-	-	-	-	-	-	1	6
Wisconsin.....	38	96	-	-	-	-	-	-	-	-	1	10
WEST NORTH CENTRAL....	43	110	1	1	-	-	-	-	-	-	23	79
Minnesota.....	2	3	-	-	-	-	-	-	-	-	2	9
Iowa.....	17	70	-	-	-	-	-	-	-	-	12	40
Missouri.....	7	13	-	-	-	-	-	-	-	-	4	18
North Dakota.....	7	8	-	-	-	-	-	-	-	-	3	10
South Dakota.....	6	7	-	-	-	-	-	-	-	-	-	-
Nebraska.....	-	5	-	-	-	-	-	-	-	-	-	-
Kansas.....	4	4	1	1	-	-	-	-	-	-	2	2
SOUTH ATLANTIC.....	118	205	1	2	2	9	3	7	-	-	9	29
Delaware.....	-	-	-	-	-	-	-	-	-	-	-	-
Maryland.....	-	5	-	-	1	3	1	3	-	-	-	-
Dist. of Columbia...	-	-	-	-	-	-	-	-	-	-	-	-
Virginia.....	1	23	-	-	-	4	-	1	-	-	4	7
West Virginia.....	8	34	-	-	-	-	1	1	-	-	4	16
North Carolina.....	1	1	-	-	1	2	-	-	-	-	-	-
South Carolina.....	2	6	-	-	-	-	-	-	-	-	-	-
Georgia.....	-	-	-	-	-	-	-	-	-	-	1	2
Florida.....	106	136	1	2	-	-	1	2	-	-	-	4
EAST SOUTH CENTRAL....	54	131	-	-	-	2	2	2	-	-	9	33
Kentucky.....	21	48	-	-	-	2	-	-	-	-	5	19
Tennessee.....	25	58	-	-	-	-	1	1	-	-	4	11
Alabama.....	8	19	-	-	-	-	1	1	-	-	-	3
Mississippi.....	-	6	-	-	-	-	-	-	-	-	-	-
WEST SOUTH CENTRAL....	84	288	-	-	-	-	-	-	-	1	18	53
Arkansas.....	-	4	-	-	-	-	-	-	-	-	3	7
Louisiana.....	-	5	-	-	-	-	-	-	-	-	1	3
Oklahoma.....	-	12	-	-	-	-	-	-	-	1	10	24
Texas.....	84	267	-	-	-	-	-	-	-	-	4	19
MOUNTAIN.....	22	128	-	-	-	-	-	-	-	-	-	-
Montana.....	3	7	-	-	-	-	-	-	-	-	-	-
Idaho.....	-	13	-	-	-	-	-	-	-	-	-	-
Wyoming.....	-	-	-	-	-	-	-	-	-	-	-	-
Colorado.....	3	43	-	-	-	-	-	-	-	-	-	-
New Mexico.....	3	19	-	-	-	-	-	-	-	-	-	-
Arizona.....	12	39	-	-	-	-	-	-	-	-	-	-
Utah.....	1	7	-	-	-	-	-	-	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	238	567	-	-	-	-	4	10	-	-	4	23
Washington.....	24	103	-	-	-	-	-	-	-	-	-	-
Oregon.....	24	55	-	-	-	-	-	-	-	-	-	-
California.....	181	380	-	-	-	-	4	10	-	-	4	23
Alaska.....	-	3	-	-	-	-	-	-	-	-	-	-
Hawaii.....	9	26	-	-	-	-	-	-	-	-	-	-
Puerto Rico.....	-	-	-	-	-	-	-	-	-	-	2	4
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-	-

*Delayed reports: Rubella (1971): Me. 1
Typhoid fever (1970): S.C. delete 1

Morbidity and Mortality Weekly Report

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Week No. 4 TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED JANUARY 30, 1971

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes	Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over				All Ages	65 years and over		
NEW ENGLAND:	756	499	59	21	SOUTH ATLANTIC:	1,243	685	46	52
Boston, Mass.-----	242	139	23	9	Atlanta, Ga.-----	140	65	5	8
Bridgeport, Conn.-----	40	23	3	—	Baltimore, Md.-----	267	151	5	8
Cambridge, Mass.-----	21	16	7	—	Charlotte, N. C.-----	66	38	—	3
Fall River, Mass.-----	30	25	1	—	Jacksonville, Fla.-----	82	49	6	1
Hartford, Conn.-----	73	40	1	4	Miami, Fla.-----	123	67	2	5
Lowell, Mass.-----	26	17	1	—	Norfolk, Va.-----	61	32	1	3
Lynn, Mass.-----	20	15	1	—	Richmond, Va.-----	96	53	6	3
New Bedford, Mass.-----	24	18	2	—	Savannah, Ga.-----	36	13	7	1
New Haven, Conn.-----	38	27	—	3	St. Petersburg, Fla.-----	103	82	6	—
Providence, R. I.-----	58	42	8	1	Tampa, Fla.-----	77	40	7	6
Somerville, Mass.-----	14	10	1	—	Washington, D. C.-----	150	68	1	14
Springfield, Mass.-----	61	43	4	1	Wilmington, Del.-----	42	27	—	—
Waterbury, Conn.-----	35	24	—	2	EAST SOUTH CENTRAL:	725	397	41	47
Worcester, Mass.-----	74	60	7	1	Birmingham, Ala.-----	98	51	4	6
MIDDLE ATLANTIC:	3,481	2,060	165	107	Chattanooga, Tenn.-----	67	29	9	10
Albany, N. Y.-----	51	27	—	1	Knoxville, Tenn.-----	43	25	1	3
Allentown, Pa.-----	45	24	3	1	Louisville, Ky.-----	145	87	9	2
Buffalo, N. Y.-----	144	74	4	10	Memphis, Tenn.-----	162	92	5	16
Camden, N. J.-----	32	19	4	2	Mobile, Ala.-----	70	40	5	2
Elizabeth, N. J.-----	30	20	2	—	Montgomery, Ala.-----	27	17	3	2
Erie, Pa.-----	48	34	2	—	Nashville, Tenn.-----	113	56	5	6
Jersey City, N. J.-----	74	46	6	2	WEST SOUTH CENTRAL:	1,283	717	57	56
Newark, N. J.-----	87	43	4	2	Austin, Tex.-----	36	22	1	—
New York City, N. Y.-----	1,705	1,046	69	52	Baton Rouge, La.-----	40	15	2	—
Paterson, N. J.-----	36	23	1	3	Corpus Christi, Tex.-----	31	21	—	—
Philadelphia, Pa.-----	554	289	10	18	Dallas, Tex.-----	177	92	2	9
Pittsburgh, Pa.-----	217	121	10	7	El Paso, Tex.-----	53	28	4	5
Reading, Pa.-----	44	33	1	—	Fort Worth, Tex.-----	103	60	7	5
Rochester, N. Y.-----	133	79	25	5	Houston, Tex.-----	234	107	8	11
Schenectady, N. Y.-----	38	23	5	—	Little Rock, Ark.-----	87	44	4	5
Scranton, Pa.-----	42	25	5	1	New Orleans, La.-----	148	95	9	4
Syracuse, N. Y.-----	83	60	2	1	Oklahoma City, Okla.-----	98	67	1	5
Trenton, N. J.-----	52	26	3	1	San Antonio, Tex.-----	146	87	5	7
Utica, N. Y.-----	26	17	4	—	Shreveport, La.-----	56	30	8	4
Yonkers, N. Y.-----	40	31	5	1	Tulsa, Okla.-----	74	49	6	1
EAST NORTH CENTRAL:	2,794	1,659	94	119	MOUNTAIN:	500	295	19	40
Akron, Ohio-----	62	35	2	7	Albuquerque, N. Mex.-----	53	24	5	4
Canton, Ohio-----	35	27	3	1	Colorado Springs, Colo.-----	23	18	3	—
Chicago, Ill.-----	748	447	15	29	Denver, Colo.-----	129	72	2	15
Cincinnati, Ohio-----	173	113	4	8	Ogden, Utah-----	16	10	1	3
Cleveland, Ohio-----	222	123	7	17	Phoenix, Ariz.-----	127	77	4	11
Columbus, Ohio-----	136	78	—	5	Pueblo, Colo.-----	22	15	1	—
Dayton, Ohio-----	112	69	5	2	Salt Lake City, Utah-----	57	34	1	4
Detroit, Mich.-----	390	218	11	13	Tucson, Ariz.-----	73	45	2	3
Evansville, Ind.-----	52	35	4	—	PACIFIC:	1,811	1,133	55	66
Flint, Mich.-----	66	34	2	4	Berkeley, Calif.-----	23	17	3	—
Fort Wayne, Ind.-----	41	22	5	3	Fresno, Calif.-----	47	28	1	2
Gary, Ind.-----	38	15	3	—	Glendale, Calif.-----	38	22	—	2
Grand Rapids, Mich.-----	49	29	2	1	Honolulu, Hawaii-----	44	22	1	4
Indianapolis, Ind.-----	169	105	5	12	Long Beach, Calif.-----	124	81	4	1
Madison, Wis.-----	42	15	5	1	Los Angeles, Calif.-----	577	385	22	26
Milwaukee, Wis.-----	159	92	2	4	Oakland, Calif.-----	76	48	—	4
Peoria, Ill.-----	31	18	—	3	Pasadena, Calif.-----	52	36	1	—
Rockford, Ill.-----	45	25	7	3	Portland, Oreg.-----	140	84	6	5
South Bend, Ind.-----	47	37	5	—	Sacramento, Calif.-----	81	40	1	1
Toledo, Ohio-----	116	79	7	5	San Diego, Calif.-----	119	68	4	2
Youngstown, Ohio-----	61	43	—	1	San Francisco, Calif.-----	199	119	4	6
WEST NORTH CENTRAL:	843	544	36	38	San Jose, Calif.-----	48	33	1	2
Des Moines, Iowa-----	77	51	10	2	Seattle, Wash.-----	144	85	5	6
Duluth, Minn.-----	15	11	—	1	Spokane, Wash.-----	55	36	1	2
Kansas City, Kans.-----	40	22	2	6	Tacoma, Wash.-----	44	29	1	3
Kansas City, Mo.-----	145	98	3	5	Total	13,436	7,989	572	546
Lincoln, Nebr.-----	32	24	1	3	Expected Number	13,695	8,017	577	570
Minneapolis, Minn.-----	92	65	2	3	Cumulative Total	57,802	33,733	2,330	2,736
Omaha, Nebr.-----	71	38	1	7	(includes reported corrections for previous weeks)				
St. Louis, Mo.-----	234	144	5	7					
St. Paul, Minn.-----	76	50	1	1					
Wichita, Kans.-----	61	41	11	3					
Las Vegas, Nev.*	20	11	—	—					

*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

† Delayed Report for Week ended January 23, 1971

EPIDEMIOLOGIC NOTES AND REPORTS
 APPARENT TRANSIENT FALSE-POSITIVE FTA-ABS TEST
 FOLLOWING SMALLPOX VACCINATION - Tulsa, Oklahoma

On June 23, 1970, a 20-year-old woman from Tulsa, Oklahoma, was given a routine serologic test for syphilis prior to applying for a marriage license. When the test was reported as reactive, a second blood specimen was taken. The second test (VDRL Slide Test) was also reactive at a 1:8 dilution. The following day, June 26, the patient was sent to the Venereal Disease Clinic at the Tulsa City-County Health Department, where the VDRL Slide Test was again reactive at a 1:8 dilution. Furthermore, a Fluorescent Treponemal Antibody-Absorption (FTA-ABS) test performed at the Oklahoma State Department of Health was also reactive.

The patient denied having had sexual intercourse. On physical examination, her hymen was intact, and a cervical culture for gonococci was negative. The patient's fiancé had a nonreactive serologic test for syphilis; his physical examination showed no lesions or other evidence of primary or secondary syphilis. Both the patient and her fiancé denied having had symptoms compatible with venereal disease.

The patient had received a smallpox vaccination a month earlier. Since routine serologic tests for syphilis that use crude lipoidal or purified cardiolipin antigens reportedly give transient false-positive results with some persons who have had recent smallpox vaccinations, a tentative diagnosis of biologic false-positive reaction was made, and no treatment was given.

A follow-up VDRL Slide Test on July 6 was reactive

at a 1:2 dilution, but the FTA-ABS test was nonreactive. On October 16, after the patient was married, both the VDRL Slide and FTA-ABS Tests were nonreactive. The VDRL Slide Test was performed at the Tulsa City-County Health Department and the FTA-ABS test at the Oklahoma State Health Department.

(Reported by Mary Jo Jacobs, M.D., clinical physician, George W. Prothro, M.D., Director, Tulsa City-County Health Department; R. LeRoy Carpenter, M.D., Chief, Personal Health Services, Oklahoma State Department of Health.)

Editorial Note:

The incidence of false-positive reactions for syphilis in persons who have been recently vaccinated against smallpox has been reported to be from 6 to 16 percent (1,2). The positive results usually occur 2 weeks after vaccination and last up to 4 months (2,3). In the United States, the FTA-ABS is the test most widely used for serologic confirmation of syphilis, and as far as is known, this is the first report of an apparent transient false-positive reaction of this test in connection with smallpox vaccine.

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The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks for case investigations of current interest to health officials.

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